

**NATIONAL EXPERT COMMITTEE
for
REVISION OF SALARY SCALES
of
TEACHERS OF TECHNICAL INSTITUTIONS**



SUMMARY

APRIL, 1987 (All India Council for Technical Education)

MEMBERSHIP OF THE COMMITTEE

Dogra, R.N.	Ex-Chairman, Board of Governors, I.I.T., Kanpur.	Chairman
Kulandaiswamy, VC	Vice-Chancellor, Anna University, Madras.	
Hussain, Abid	Fx-Chairman, Indian Institute of Management, Bangalore.	
Modi, K.N.	Chairman, Modi Industries, Modinagar.	
Kumta, S.B.	Director, Technical Education, Gujarat, Ahmedabad.	
Kulkarni, P.D.	Principal, Technical Teachers' Training Institute, Chandigarh-160 026.	
Swani, N.M.	Director, Indian Institute of Technology, Delhi.	
Rao, P.S.	Professor, Indian Institute of Technology, Madras.	
Member	Representative of the Ministry of Finance (Dept.t.of Expenditure) New Delhi.	
Gupta, J.D.	Joint Secretary (Universities) Ministry of Education & Culture, New Delhi.	
Handa, S.K.	Deputy Educational Adviser(T) Ministry of Human Resource Development, Shastri Bhawan, New Delhi.	Member-Secretary

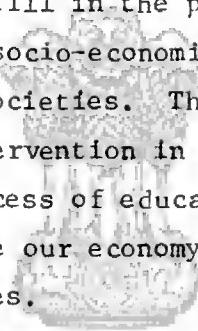
PREFACE

On behalf of my colleagues on the Committee, and myself, I would like to express to the Council, our gratitude for reposing in us so much confidence, as to entrust to our care, such a vital matter as the future of the technical teachers, so intimately linked with the development and prosperity of our country. We have approached the problem, entrusted to us, with a deep sense of responsibility, and have come up with some suggestions, in the hope that both the Government and the profession will find them acceptable & useful.

The exponential rate of growth of knowledge, characteristic of our age, poses a major challenge to technologists in every country. Their response has been in terms of development of new technologies based on latest scientific developments, fast enough to benefit their communities. While Science is universal, technologies are location specific and, therefore, countries are generally unwilling to part with their up-to-date technologies, particularly in emerging areas. Every country, therefore, has to develop its own capability i.e. a strong R&D base to develop new technologies or even to adopt and adapt technologies borrowed from other countries. This requires Engineer-Scientists of a very high calibre and competence.

Yet, another consequence, of this rapid rate of change is the very high degree of obsolescence generated within the system both in terms of processes and human resource employed. This challenge of obsolescence has to be met with a continuous process of self-renewal and updating of the system. This again requires professionals of very high merit and competence capable of self-renewal themselves, and keeping the system up-to-date by organising extension services.

Another dimension of the challenges confronting us, though somewhat different in nature, arising out of the present milieu, is the rising expectations in our developing societies. On account of easy means of communications, Science & Technology has helped us to conquer distance, it no longer serves as a barrier between countries and societies. This, however, poses peculiar problems for developing societies still in the process of development with a yawning gap between the socio-economic situations in developing as against the developed societies. This challenge can only be met through corrective intervention in the attitude of the younger generation through the process of education backed up by socio-economic changes to upgrade our economy fast enough to catch up with the developed societies.



The response to all these basic challenges confronting our society, lies in our ability to harness & utilise the human resource available with us to our best advantage. This, however, does not mean that development of material resources is not considered important. On the contrary, we believe it to be vital for the prosperity of the nation. But we are equally convinced that, that alone will not be sufficient, and that even for their optimal exploitation, development of human resources i.e. producing capable and competent professionals should receive priority.

We believe that it is for this reason that our National Policy on Education lays so much stress on education, as a process for

development of human resource and not merely as a vehicle for transferring skills and traditions from one generation to the other. Therefore, teachers in general and technical teachers in particular, have a vital role to play in this process.

If that be the case, then it is obvious that none other than the most talented in the country should be harnessed and utilised for teaching. This should, however, not be interpreted to mean that good people are not needed in other sectors of the national endeavour. On the contrary, we believe that for the balanced growth of our economy, talent should be equally distributed in all sectors of the economy.

In our report, we have tried to work on this premise & identify factors that will help us to achieve this objective. We sincerely hope that consequentially if our recommendations are accepted it should be possible to attract and retain, fair share of talent for the teaching profession which we believe to be the priority need to meet the challenges of the future.

In conclusion, I would like to place on record my personal gratitude to my distinguished colleagues on the Committee for their wise and invaluable counsel and generosity in sparing so much of their time. The Member Secretary indeed did a yeo-man's job inspite of his many pre-occupations in the Ministry. His personal support and advice in the successful completion of the Report is fully appreciated and acknowledged.



(R.N. Dogra)
Chairman
National Expert Committee

C O N T E N T S

Page No.

INTRODUCTION

Work Organisation	1
Methodology	2
Scope of the Report	3

HISTORICAL BACKGROUND

Early History of Technical Education	3
All India Council for Technical Education	4
Committees of AICTE	4
Review of Salary Scales - 1950	4
Review of Salary Scales - 1958	5
Review of Salary Scales - 1973	5

AREAS OF CONCERN

Human Resource Critical for Development	6
Infrastructure of Technical Education	6
Vacancies at the National Level	7
Stagnation	7
Pay Scales Prior to 1973 and After	8
Stagnation since 1973	8
Enhanced Qualification from 1973	9
Attracting & Retaining Talented Professionals	9

PRESENT STATUS OF TEACHERS OF TECHNICAL INSTITUTIONS

Large Scale Vacancies	10
Poor Rate of Career Growth	10

Page No.

Competing Sectors of Employment	11
Disparity in Salary Scales	11
Comparison of Service Conditions and Work Environment	12
Case for Better Salary Scales, Service Conditions & Work Environment	13

CHALLENGE OF TECHNICAL EDUCATION SYSTEM - PRESENT & FUTURE

Present Challenges	14
Future Challenges	15
Industrial Self-reliance & Import Substitutions	15
Emerging Technology	15
Entrepreneurship Development	16
Rural Development	16
Unemployed Masses, Women & Weaker Sections	16
Multiple Roles of Technical Teachers in Future Scenario	16

IDENTIFICATION OF BASIC ISSUES

Basic Issues	17
Additional Issues	18
Types of Technical Institutions	19
Entry at Under-Graduate Level	19
Strategy for Improvement	19
Total Compensation Package	19
Attractive Career Pattern	20
Acute Shortage of Teachers	20

RECOMMENDATIONS

Cadre Structure	21
Fixed Term Appointments	22

Qualifying Examination at Entry	23
Lateral Entry	23
Basic Education & Training Programme	24
Advanced Education & Training Programme	24
Training in New & Emerging Areas	25
Career Growth	25
Pursuit of Excellence	26
Salary Scales	26
Service Conditions	28
Work Environment	30
Qualifications and Experience Requirements	32

PERFORMANCE APPRAISAL

Appraisal System	32
Performance Evaluation	34
Institutional Evaluation	35
Programme/Course Evaluation	35
Teacher Evaluation	36
Accountability	37

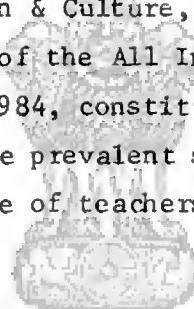
IMPLEMENTATION STRATEGY

Placement of Existing Teachers	38
Induction of Teachers	39
Selection Procedures	40
Education & Training Programmes	40
Basic Education & Training Programmes	40
Advanced Education & Training Programmes	41
Training and leave Reserve	42
Introduction of Performance Appraisal System	42

	Page No.
Monitoring the Implementation of Recommendations	43
Strategy for Funding	43
<u>ACKNOWLEDGEMENT</u>	44



INTRODUCTION

The Minister of Education & Culture, Govt. of India in her capacity as Chairperson of the All India Council for Technical Education, in December 1984, constituted a National Expert Committee, to examine the prevalent structure of emoluments and conditions of service of teachers in technical institutions and recommend : 

(Para 1.1)

- (i) Revised salary scales and qualifications for teachers having regard to the necessity of attracting and retaining talented professionals for teaching in technical institutions.
- (ii) Possible linkage if any of their salary scales with the University and College teachers.

(Para 1.3)

Work Organisation

The scope of the task, entrusted to the Committee, covered a very wide spectrum of disciplines and levels. As the task involved in conducting this investigation was extensive and time consuming, to expedite the process, it was decided to constitute four Zonal

THE REMIT OF THE COMMITTEE

GOVERNMENT OF INDIA
MINISTRY OF EDUCATION & CULTURE
(DEPARTMENT OF EDUCATION)

Subject: Revision of salary scales of teaching staff of engineering colleges/technological institutions and polytechnics - constitution of a National Expert Committee for the purpose

The question of revision of salary scales of the teaching staff in the engineering colleges/technological institutions and polytechnics has been engaging the attention of the Ministry of Education for quite some time. Having regard to the need for attracting and retaining the best talent to the teaching profession and various other relevant considerations, the Minister of Education & Social Welfare in her capacity, as Chairman, All India Council for Technical Education, has set up a National Expert Committee to examine the matter in detail and make necessary recommendations.

Terms of Reference



- (i) To examine the present structure of emoluments and conditions of service of teachers in engineering colleges, technological institutions and polytechnics.
- (ii) to recommend revised salary scales and qualifications for teachers having regard to the necessity of attracting and retaining the best talent, and the linkage with salary scales with university and college teachers.

Sd/-

(S.K. Handa)

Deputy Educational Adviser(T)
Government of India

No. F.6-6/84-T.5

Dated: 16.10.1984.

Sub-Committees to meet the various target groups within each Zone and collect relevant data for its analysis.

(Para 1.4)

Methodology

The Zonal Sub-Committees collected this data through three questionnaires, specially designed for the purpose, and memoranda received from various institutions, individual teachers and teachers' associations. They also arranged meetings and interviews at different locations in the respective states in the regions with the concerned target groups.

(Para 1.1)

The data obtained through the four Zonal Reports was further analysed and synthesised, collectively through the TTTIs, which provided the professional inputs as resource institutions. As a result, a clear profile of the status of the teachers in technical institutions vis-a-vis the Government Services and the industrial sector emerged at the National Level, which provided the basic data for this analysis.

(Para 1.6)

The Committee itself also held a series of meetings and discussions with professional organisations and bodies concerned with technical education at the national level.

The end product of the exercise has been the emergence of a set of recommendations in respect of the proposed cadre structure, salary scales of different cadres, together with the conditions of service and work environment for teachers of technical institutions. The Committee believes that these recommendations, when implemented, should help to attract and retain due share of the best talent in the country, into technical education.

(Para 1.6)

Scope of the Report

The second remit to the Committee was exploring the possible linkage, if any, between the salary scales of technical teachers with their counterparts in the Universities. After great deal of consultation and deliberations, it came to the conclusion that such a linkage was neither feasible nor justified for the following reasons :

- The competing sector offering alternative job opportunities to competent professionals needed by technical institutions was the industrial sector and not the Universities.
- Linking cadre structure and salary scales of technical teachers with those in the Universities, in 1973, resulted in large scale vacancies in technical institutions as reported later.
- Since inception of Technical Education in mid 19th Century, the salary scales of teachers in Technical Institutions were related to the user organisations.
- Supply and demand position shows a shortage in the case of technical teachers and abundant supply of teachers in the Universities.

(para 1.7)

This matter has been further elaborated in the relevant chapters of the report.

HISTORICAL BACKGROUND

Early History of Technical Education

The formal technical education in India, as we know it today, may be dated back to mid 19th Century when four Technical Institutions - one in each presidency town, were set up by the Government primarily to meet its own manpower needs for the civil engineering works.

(Para 2.1)

By the turn of the century, however, the number of technical institutions had risen to 29 and the students receiving training in them to 10535. These institutions were generally managed by the State Governments and the user agencies i.e. PWDs, Railways etc.

(Para 2.1)

Though, the salary scales and status of teachers in these institutions, varied from State to State, but they were generally related to the salary scales of the user organisations.

(Para 2.1)

All India Council for Technical Education

It was not until 1945 that the Govt. of India set up an All India Council for Technical Education (AICTE), on the recommendations made by the Central Advisory Board of Education to meet the challenge of the postwar period. This recommendation arose out of the belief that technical education at that level, could not be effectively organised on local or provincial basis.

(Para 2.2)

Committees of AICTE

On assuming responsibility, as a first priority, AICTE addressed itself to the crucial problems of laying down norms of facilities, academic structure and salary scales of teachers of technical institutions with a view to standardising the end product.

(Para 2.2)

(i) Review of Salary Scales - 1950

It, therefore, decided to appoint a Sub-Committee in January, 1950 to examine all aspects of this problem and advise. The Committee submitted its recommendations in July 1950. The AICTE accepted their recommendations which formed the basis of the first attempt to regulate, control and manage technical education at the national level.

The scales of pay made applicable then are given in the text of the report. (Para 2.3.1)

(ii) Review of Salary Scales - 1958

By the late fifties, with growing demand of competent professionals in the industrial sector which was expanding rapidly, the scales of pay adopted in 1950 had become irrelevant and were no longer able to attract meritorious professionals to teaching.

(Para 2.3.2)

The Association of Principals of Technical Institutions (APTI) brought this to the notice of the AICTE in 1958. They suggested that the salary scales of technical teachers be revised and brought up-to-date.

(Para 2.3.2)

The AICTE accepted their recommendations and advised the Government accordingly. The revised salary scales introduced in 1958 are also listed in para 2.3 of the report.

(Para 2.3.2)

iii) Review of Salary Scales - 1973.

The next review of the salary scales of teachers in technical institutions took place in 1972-74. This was almost a decade and a half later. During this period, pressures had already built up for a general revision of pay scales of all Government employees and the Government had responded by setting up the Third Pay Commission. UGC had also set up a separate committee to examine the pay structure of its own teachers.

(Para 2.3.3)

The inputs from these two Committees formed the basis of this review by the AICTE of scales of technical teachers. For some reason not quite so apparent now,

it was decided to de-link the salary scales of teachers of technical institutions from the user organisations and put them on par with the Universities. This view was accepted by Government, and the UGC salary scales were made applicable also to teachers of technical institutions w.e.f. 1.1.1973. (Para 2.3.3)

Simultaneously, the number of cadre positions in the technical institutions were reduced to four in the engineering colleges and to three in the polytechnics. On the other hand, the minimum qualifications for entry into these institutions were raised for all posts. (Para 2.3.3)



Human Resource Critical for Development

The primary role of any educational system is to contribute to the socio-economic development desired by the society by developing its human resources. The development of human resource in general and in higher and technical education, in particular, is, therefore, the key to prosperity of any country.

(Para 3.1)

Infrastructure of Technical Education

Being perceptive of this role of education in general and of Technical Education in particular, the Government of India has always laid great stress on development of technical education as a tool for national development. (Para 3.3)

A massive programme of expansion of technical education was, therefore, undertaken at all levels from the very First Plan.

During the last three decades, a wide network of technical institutions offering different types of programmes has been established. This has been listed in detail in Chapter 2 of the Report. (Para 3.3)

Vacancies at the National Level.

While the Technical Education System can justly take credit for achieving this phenomenal expansion of the infrastructural facilities at the graduate and technician education levels and the promotion of post graduate education and research during successive Five Year Plans , yet some of its basic problems of facilities and faculty support in technical education system remain unresolved. (Para 3.4)

It is well recognised that the quality of any educational system is as good as its teachers. As of now the technical education system is unable to attract and retain talented engineers, technologists and managers to the teaching profession. This is confirmed by the information generated by the Zonal Sub-Committees which shows that on the average 18% to 26% and 22% to 29% of the posts are unfilled in the professional and technician education institutions respectively. (Para 3.4)

Stagnation

In the existing academic structure there are only four cadre positions in professional and three in technician education institutions respectively. The small number of cadre positions in technical institutions retards the rate of growth of teachers resulting in large scale stagnation and frustration at all levels. The information generated by the Zonal Sub Committees indicates an average stagnation period of about 8 to 10 years in each post.

(Para 3.5)

Pay Scales Prior to 1973 and After

Of all the factors that are responsible for the large scale vacancies of teachers in technical institutions and the acute stagnation in the profession indicated above, it would appear to us that salary scales of teachers stand out as the most important single factor. AICTE being aware of this situation has been periodically taking stock of it since its inception in 1945, and revising salary scales of teachers of technical institutions to bring them up-to-date with a view to ensuring adequate supplies of competent professionals for teaching in technical institutions. They have carried out three such reviews up-to-date which have been listed in detail in Chapter 2 of the report.

(Para 3.6)

The study of this information reveals that while on the first two occasions i.e. during the reviews in 1950 & 1958, the salary scales of teachers in technical institutions were related to the user organisations i.e. generally the State PWDs or Railways etc. this policy was abandoned during the review in 1972-74. The differential between the salary scales of technical teachers and those of the Universities which had existed earlier was eliminated and their scales of pay were brought on par with those of the Universities. This resulted in large scale vacancies in technical institutions indicated above.

(Para 3.6)

Stagnation since 1973

Further, the simultaneous reduction in the cadre positions in technical institutions as indicated above aggravated the situation further and added to the frustration amongst the teachers in technical institutions. Prior to this change in policy, minimum qualifications for entry to a lecturer's post in technical education was a First Class Bachelor's Degree. These were, however, raised to a Master's Degree with the introduction of the new salary scales in 1972-74.

(Para 3.6)

Enhanced Qualifications from 1973

As the Master's Degree programme required additional three to four semesters to complete, no bright engineering graduate was willing to invest this extra time, unless he was assured substantially better career prospects. Since the teaching profession was unable to offer this, the talented engineering graduates chose to opt for the industrial sector or Government service. Teaching was thus rendered as their last option. The enhanced qualifications at entry, therefore, did not succeed in achieving the objectives of attracting and inducting the most competent and talented individuals to the system as expected.

(Para 3.8)

Attracting and Retaining Talented Professionals.

While the technical education system has been catering to the demands of the industrial sector in terms of producing the required numbers of technical personnel needed by the economy, the system itself is starved of the required inputs of the Calibre needed to produce this highly trained manpower. It is, indeed, a paradox that the system which is required to provide the most critical human resource for our economic development, itself suffers from the lack of it.

(Para 3.9)

In order to attract the talented and most competent professionals to technical education, which indeed it must, to fulfill its objectives, it would appear that the system must respond to the situation by :

- (i) Improving the 'Total Compensation Package' of teachers in technical institutions and relating it to sectors where alternative employment would be found by such professionals.
- (ii) Inducting meritorious technical personnel with distinguished record at Bachelor's Degree level before they are lost to other competing sectors.

(iii) Accepting responsibility for preservice and inservice training for their own teachers according to the needs of the system, as is done universally by all organisations.

(Para 3.9)

PRESENT STATUS OF TEACHERS OF TECHNICAL INSTITUTIONS

In order to evolve a rational personnel policy that would ensure a fair distribution of competent professionals in technical institutions and the user sectors, the Committee felt it would be useful to compare the present status of teachers in technical institutions with that in the Public Services and the Public Sector Undertakings comprising the main competing sectors. This information was collected through the Zonal Sub-Committees and has been given in detail in Chapter 4 of the main report.

(Para 4)

Large Scale Vacancies

The data collected by the Zonal Sub-Committees revealed a large percentage of vacancies at the various levels in technical institutions. On the average, 18-26% and 22-29% of posts are unfilled in professional and technician education institutions respectively.

(Para 4.1,i)

Poor Rate of Career Growth

The rate of career growth of teachers in technical institutions is poor, resulting in stagnation. It was observed that 42% of teachers in professional education and 50% of teachers in technician education institutions remain at the same level for 8 to 10 years or more.

Fig. 4.2 depicts this slow rate of career growth of teachers in technical institutions with other competing sectors graphically.

(Para 4.1,ii)

Competing Sectors of Employment

From the statistics available with the Institute of Applied Manpower Research (IAMR), it will be observed that in the year 1982, 65.3% of the output of professionals from technical institutions opted for the industrial sector, 27.6% for the Public Services both Central and State and only a part of the remaining 7.1% for teaching. (Para 4.2)

From the above distribution, it may be concluded that the reference datum for any reasonable salary structure for technical teachers could only be the Public Services/Public Sector Undertakings, if there is to be reasonable distribution of competent professionals between teaching and the user organisations. (Para 4.2)

Disparity in Salary Scales

From the data collected in respect of salary scales of teachers of technical institutions and professionals in Public Service Undertakings and Central and Public Services given in Tables 4.6 and 4.7 in Chapter 4, it will be seen that their salaries at corresponding levels range between 65% to 80% of those in Public Sector even though they are required to possess higher qualifications for entry into the teaching profession. A similar dismal picture emerges when comparing salary of technical teachers with those in Public Services. (Para 4.2)

This disparity is more clearly brought out when depicted graphically in Fig. 4.2 which shows the comparison between the emoluments of the three competing sectors, namely teachers in the technical institutions, Public Sector Undertakings and Public Services. (Para 4.2)

It may be observed that while the initial emoluments at start are almost the same in the three cases, increase in the total emoluments is the highest for the Central Services followed by Public Sector Undertakings. The rate of increase of monthly emoluments over the years is lowest for teachers in technical institutions. Hence the total cumulative earnings over the total working life span is highest for Central Public Services and lowest for teachers in technical institutions. This disparity in salary scales and poor career prospects explains the turning away of the bright and meritorious young professionals from teaching.

(Para 4.2)

Comparison of Service Conditions and Work Environment

The Public Sector Undertakings not only offer attractive salary scales but also provide excellent service conditions and work environment. As a consequence, technical education is no longer able to attract talented professionals to technical institutions.

(Para 4.3)

Some of the major gaps are in respect of the following :

- a) Housing is one of the basic necessities of life. Accommodation is short and not available. While 87.72% of Public Sector Undertakings provide accommodation to 50% or more of their officers, only 33% of professional education and 6% of technician education institutions provide housing to 50% or more of their teachers.

(Para 4.3,i)

- b) Next most important need of the employees whether in technical education or Public Sector Undertakings, is the medical care for them and their families. It is observed that only 37% of professional education and 7% of technician education institutions have full-time medical officer and general medical facilities

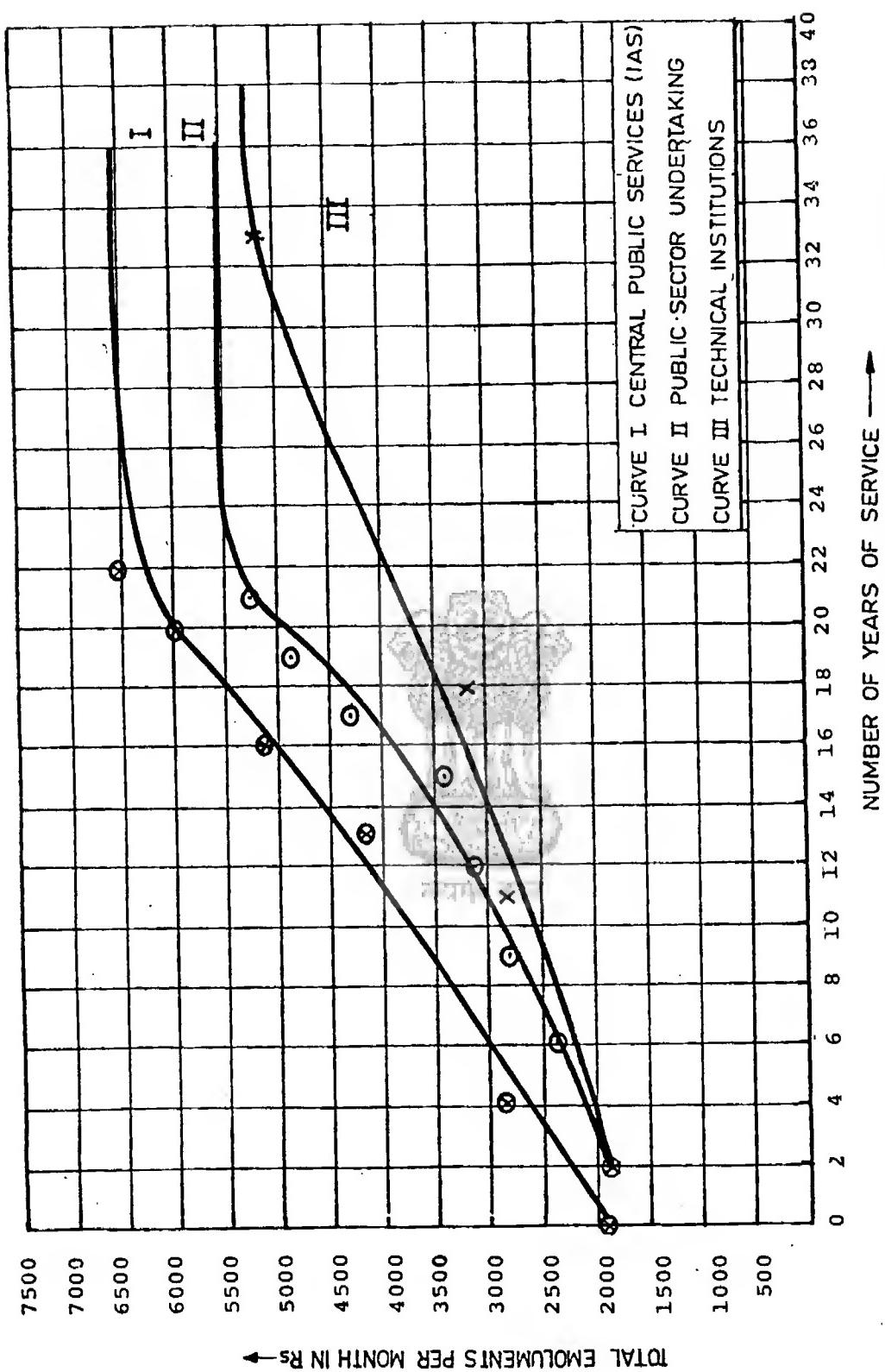


Fig.4.2 Graph showing Total Emoluments in Rupees Per Month vs. No. of Years of Service in respect of Central Public Services (IAS), Public Sector Undertakings and Technical Institutions.

available to them as compared to 80% of Public Sector Undertakings. Position regarding reimbursement of the medical expenses including medicines is even worse.

(Para 4.3,ii)

- c) The data shows that while 83% of the Public Sector Undertakings pay conveyance allowance to their officers, none of the technical institutions provide such facility to their teachers even though they are required to interact with the user systems and the society.
 (Para 4.3,vi)
- d) Whereas nearly 82% of the Public Sector Undertakings provide the facility of group insurance to their staff, only 17 to 24% of technical institutions provide this facility to their teachers.
 (Para 4.3,iv)
- e) Nearly 80% of the Public Sector Undertakings extend the facility of LTC to their officers whereas only 40% of the technical institutions do so.
 (Para 4.3,v)
- f) Whereas Sabbatical leave for teachers of technical institutions is vital for continuous upgradation of knowledge and skills, only 30% of professional education and 6% of technician education institutions provide this facility to their teachers.
 (Para 4.3,iii)

Case for Better Salary Scales, Service Conditions and Work Environment

The statistical data collected by the Zonal Committees clearly establishes the poor status of the teachers of technical institutions as determined by their salary scales, service conditions and work environment, resulting in the meritorious professionals turning away from the teaching profession. (Para 4.4)

Recruitment of faculty from amongst graduates other than the most talented will adversely affect the quality of technical manpower produced for the technological development and socio-economic advancement of our society. The need to improve the salary scales, and by implication, the status of the teachers in technical institutions, is thus fully established and can hardly be over emphasised.

(Para 4.4)

CHALLENGES OF TECHNICAL EDUCATION SYSTEM - PRESENT AND FUTURE

Present Challenges

So far we have been looking at the status and quality of a teacher from the point of view of his present role in society. This perception of the teacher however, would hardly be adequate to meet the challenges of the future.

(Para 5.1)

In the coming decades, the country would require high quality manpower possessing technical and managerial capabilities to keep pace with technology which is changing at an exponential rate. The technical education system is diversifying its course/programmes and updating curricula to meet the requirements of infrastructural development of the service sector.

(Para 5.1)

The system has to considerably expand its facilities for imparting industrial and management education at the highest level and retraining existing personnel due to changes and advancements in technology. The technical institutions have to augment their R&D activities, extension and consultancy services to solve the varied problems faced by industry in high technology and frontier areas.

(Para 5.1)

Future Challenges

While the system is trying to meet the technical manpower needs of various sectors of economy, it will have to face many new challenges particularly in the context of accelerated national development. The future challenges include the following :

(Para 5.2)

(i) Industrial Self-reliance and Import Substitution

It is becoming increasingly difficult and counter-productive to depend purely on borrowed technology. The borrowed technology has often to be adapted to suit local conditions. The cost of acquiring such technology is usually very high. Then there is the question of spares and subsequent maintenance. These are not readily available when needed. This is more critical in the case of defence and up-to-date technologies. Import substitution will, therefore, become the most important goal of industrial development in the coming decades. All this requires a very high quality of technical manpower and a much greater and sustained effort in the area of research and development.

(Para 5.2.1,5.2.2)

The system will have to develop a strong R&D base with adequate capability in high technology areas to achieve industrial self-reliance and self-sufficiency without which we cannot hope to catch up with rest of the world.

(Para 5.2)

(ii) Emerging Technology

The system will have to focus on inter-disciplinary research and needs of emerging technologies. Technical institutions will need to constantly update curricula, modernise facilities and diversify courses and programmes

to meet the challenge of emerging technologies.

(Para 5.3)

(iii) Entrepreneurship Development

In view of the growing awareness that technical personnel should consider starting their own industrial units, the system will need to design suitable courses and curricula to promote entrepreneurship.

(Para 5.2.3)

(iv) Rural Development

One of the top priorities of the system will be modernisation of rural industry by adapting, adopting and transferring technology appropriate to agriculture, live-stock and forestry based industries.

(Para 5.2.4)

(v) Unemployed Masses, Women & Weaker Sections

Technical institutions will be called upon to provide appropriate inputs in various formal and non-formal vocational programmes at different levels to cater to the needs of unemployed masses, women and weaker sections of society.

(Para 5.2.5)

Multiple Roles of Technical Teachers in Future Scenario

In the future scenario, the technical teacher will have to perform the following multiple roles :

- monitor and evaluate the teaching-learning process for effecting innovations and changes remove obsolescence and upgrade and update his own knowledge and skills
- act as a change agent for introducing innovations

- to meet the future challenges
- provide leadership in formal and non-formal educational programmes for unemployed youth and rural masses, women and weaker sections of society.
- (Para 5.5)

In order to perform the aforesaid multiple roles, the technical teacher would need to have talent, techniques and temperament of a high order relating to his professional work. The system must, therefore, induct the best professionals to teaching in technical institutions, provide them necessary professional preparation and create satisfactory work environment so that they may give of their best to the students and the profession.

(Para 5.5)



IDENTIFICATION OF BASIC ISSUES

The far from satisfactory status of teachers of technical institutions in respect of their salary scales, service conditions and work environment has been highlighted by the data collected by the Zonal Sub-Committees and discussed in Chapter 4. It establishes beyond doubt that there is a need to identify a new personnel policy that would improve their image and is able to attract persons with talent in adequate numbers and of the right calibre to the teaching profession.

(Para 6.1)

Basic Issues

The Committee having considered this problem in detail came to the conclusion that consistent with logic of the circumstances already outlined in the earlier part of the

report, the following basic issues emerge for action :

(Para 6.2)

- (i) The total financial package of teachers should be made attractive so that the best available talent is attracted and retained in the teaching profession, in technical institutions.
- (ii) The revised salary scales should be commensurate with the job requirements, level of responsibility, qualification level and experience requirements for various posts.
- (iii) The revised 'Total Compensation Package' should compare favourably with that offered in the Public Services and the Public Sector Undertakings which are the competing sectors for the technical education.
- (iv) In the Public Sector Undertakings, the number of cadre positions are much greater resulting in a faster career growth.


The career profile of the teachers must be improved to provide the necessary incentives to the most talented individuals, who need to be inducted into the system.
- (v) Necessary support system for professional development of the technical teachers must be created within the technical education system.

Additional Issues

In addition to these basic issues related to the 'Total Compensation Package' and the career profile of the teachers

in technical institutions, there are some other issues that would also require attention. (Para 6.2)

(i) Types of Technical Institutions

In Technical Education System, technical education is conducted at two levels i.e. professional and technician level institutions. Products of both these levels are equally important for the development of the economy. The competence of the faculty at both these levels of institutions is the same, though of a different kind.

(Para 6.3.1)

The cadre structure has, therefore, to be so designed as to attract equally competent professionals to suit the requirements of various programmes offered in both these categories of institutions.

(Para 6.3.1)

(ii) Entry at Under-graduate Level

The Government Departments and the industrial sector, select their officers from amongst the graduates with Bachelors' Degree in the relevant fields. On the other hand in technical institutions, the minimum qualifications for entry is a Masters' Degree, and as such the best amongst the fresh graduates are lost to the teaching profession.

(Para 6.3.2)

It is, therefore, necessary to evolve a personnel policy whereby bright and talented engineers, technologists and managers are inducted into system from amongst the fresh graduates who may then be specially trained by the system for its own requirements.

(Para 6.3.2)

Strategy for Improvement

(i) Total Compensation Package

The 'Total Compensation Package' for technical teachers

comprising salary scales, service conditions and work environment should be comparable with that obtaining in other competing sectors such as the Public Sector and Public Services.

(Para 6.4)

(ii) Attractive Career Pattern

The present cadre structure in technical institutions being limited, has produced a high level of stagnation amongst the teachers. It is imperative that the number of cadre positions be suitably increased as in Public Sector Undertakings to provide for a reasonable rate of career growth for maintaining a sense of achievement and satisfaction.

(Para 6.4.4)

Also, the existing staff structure is rigid in so far as the number of cadre positions in an institution at various levels is fixed according to a formula which has no rationality. This adversely affects the career growth of a competent teacher.

(Para 6.4.4)

The cadre structure should be flexible to provide for the unstructured progression of a highly talented individual of proven experience and capability to attract meritorious professionals & promote excellence.

(Para 6.4.4)

Acute Shortage of Teachers

Presently, the technical institutions are facing an acute shortage of teachers. The position is likely to worsen in the coming years. The system will continue to recruit a disproportionately large number of mediocre professionals who are unable to find employment elsewhere which, in turn, will inhibit the socio-economic advancement of our people.

(Para 6.5)

RECOMMENDATIONS

The Committee, following an identifiable scientific method spelt out earlier, has finalised the following set of recommendations in respect of the Cadre Structure, Salary Scales, Service Conditions and Work Environment for teachers of technical institutions which, if implemented, should help to attract and retain talented professionals in teaching.

(Para 7)

Cadre Structure

The Cadre Structure in technical institutions is perhaps one of the most important components affecting the technical education system. The existing cadre structure neither satisfies the requirement of the job roles of teachers at various levels nor does it find favour with the competent professionals, desirous of making teaching their career.

- (1) THE COMMITTEE EXAMINED THIS ISSUE IN DETAIL AND REACHED THE CONCLUSION THAT BESIDES THE PROBATIONARY LECTURERS THE NUMBER OF CADRE POSITIONS IN PROFESSIONAL EDUCATION BE INCREASED FROM 4 TO 5 AND IN TECHNICIAN EDUCATION FROM 3 TO 4. THE DETAILS OF THE RECOMMENDED CADRE STRUCTURE ARE GIVEN BELOW :

(Para 7.1)

- (A) Cadre Structure for Programmes conducted by Professional Education Institutions:

<u>Post-graduate/Advanced Programmes including Teacher Training</u>	<u>Under-Graduate Programmes</u>
	0. Probationary Lecturer.
1. Assistant Professor.	1. Lecturer.
2. Associate Professor.	2. Asstt. Professor.
3. Professor.	3. Assoc. Professor.
4. Professor.(Sr. Scale)	4. Professor.
5. Director.	5. Principal.

(B) Cadre Structure for Programmes conducted by Technician Education Institutions :

Post Diploma Programmes	Diploma Programmes
0. Probationary lecturer	0. Probationary Lecturer
1. Lecturer	1. Lecturer
2. Lecturer (Selection Grade)	2. Lecturer (Selection Grade)
3. Sr. Lecturer	3. Sr. Lecturer
4. Professor	4. Principal
5. Principal	

The proposed cadre structure in technical institutions pertains to various programmes conducted by them and is not based on any institutional categorisation. All institutions would have a mix of various types of programmes depending upon the individual emphasis in each institution.

(Para 7.1)

- (2) THE TOTAL NUMBER OF FACULTY POSITIONS IN EACH INSTITUTION WOULD BE DETERMINED ON THE BASIS OF PRESCRIBED STAFF STUDENT RATIO FOR VARIOUS PROGRAMMES.

(Para 7.1)

- (3) THE PRESENT RATIOS OF 1:8 and 1:4 FOR UNDERGRADUATE AND ADVANCED PROGRAMMES HAVE WORKED SATISFACTORIILY SO FAR AND SHOULD BE ADHERED TO. IN THE CASE OF TECHNICIAN EDUCATION, THE COMMITTEE RECOMMENDS THAT THE RATIO OF 1:10 AND 1:8 FOR GENERALISED DIPLOMA AND POST DIPLOMA PROGRAMMES RESPECTIVELY, BE ADOPTED.

(Para 7.1)

The teachers recruited by the institutions would have to jointly shoulder the responsibility of conducting all the programmes offered by the Institutions.

(Para 7.1)

Fixed Term Appointments

- (4) IN ADDITION TO THE CADRE POSITIONS INDICATED ABOVE, THE COMMITTEE

RECOMMENDS THAT TECHNICAL INSTITUTIONS MAY ENGAGE OUTSTANDING PROFESSIONALS FROM INDUSTRY/PROFESSION ON FIXED-TERM-APPOINTMENT BASIS FOR SPECIFIC PROGRAMMES/COURSES/ASSIGNMENTS.

(Para 7.1.2)

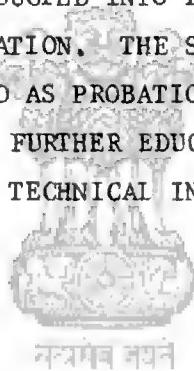
- (5) FURTHER, IT IS ALSO PROPOSED TO MAKE A PROVISION FOR THE AWARD OF NATIONAL PROFESSORSHIPS IN PROFESSIONAL EDUCATION INSTITUTIONS TO PROFESSORS WHO HAVE SHOWN OUTSTANDING MERIT IN THEIR FIELD OF WORK AT THE NATIONAL LEVEL. (Para 7.1.3)

Qualifying Examination at Entry

- (6) THE COMMITTEE RECOMMENDS THAT PROFESSIONALS WITH FIRST CLASS BACHELOR'S DEGREE BE INDUCTED INTO THE SYSTEM THROUGH AN ALL INDIA QUALIFYING EXAMINATION. THE SELECTED GRADUATES ARE PROPOSED TO BE APPOINTED AS PROBATIONARY LECTURERS. THE RESPONSIBILITY OF THEIR FURTHER EDUCATION AND TRAINING WILL HAVE TO BE TAKEN BY THE TECHNICAL INSTITUTIONS THEMSELVES.

(Para 7.1.4,i)

Lateral Entry



- (7) THE COMMITTEE RECOMMENDS THAT THE TEACHERS OF HUMANITIES AND APPLIED SCIENCES BE RECRUITED DIRECTLY AT THE LEVEL OF LECTURER WITH DOCTORATE IN THE RELEVANT FIELD. (Para 7.1.4,ii)

The system is designed to induct teachers at the Probationary Lecturers level but the Committee feels that there may be talented professionals fulfilling the qualifications needed for the higher cadre posts in the institutions, who may wish to take up teaching as a career.

- (8) ALL TEACHING POSITIONS BEING OPEN SELECTION POSTS, SUCH INDIVIDUALS WHO POSSESS THE REQUISITE QUALIFICATIONS WOULD BE ELIGIBLE TO APPLY FOR THESE POSTS AND ENTER THE SYSTEM LATERALLY AT ALL STAGES.

(Para 7.1.4,iii)

Basic Education and Training Programme

- (9) THE COMMITTEE RECOMMENDS THAT PROBATIONARY LECTURERS IN PROFESSIONAL AND TECHNICIAN EDUCATION INSTITUTIONS SHALL BE REQUIRED TO COMPLETE THE PRESCRIBED THREE YEARS BASIC EDUCATION AND TRAINING PROGRAMME TO BE ARRANGED BY THE RESPECTIVE INSTITUTIONS. (Para 7.1.4,iv)

For the professional education institutions, this programme will consist of subject matter development leading to a Master's Degree, 1 year professional exposure and upto 6 months pedagogical training. (Para 7.1.4,iv)

The programme for technician education institutions will be similar in structure but somewhat different in content. The subject matter development leading to a Master's Degree or equivalent should be designed specifically to meet the needs of the technician education i.e. problem based rather than concept and research oriented as in the professional education institutions. (Para 7.1.4,iv)

Advanced Education and Training Programme

- (10) LECTURERS, DURING THEIR TENURE, WOULD BE REQUIRED TO UNDERGO AN ADVANCED EDUCATION AND TRAINING PROGRAMME OF 2-3 YEARS DURATION LEADING TO DOCTORATE OR EQUIVALENT. (Para 7.1.4,v)

This programme will prepare them for their future role in research and development in disciplinary and trans-disciplinary areas including education and management of education and development of new programmes in professional and educational fields.

(Para 7.1.4,v)

The advanced training programme for technician education institutions though structurally the same, will be different

in concept as compared to professional education institutions. These programmes will have to be evolved and need to be specially designed to meet the needs of the technician education institutions i.e. problem oriented.

(Para 7.1.4,v)

Training in New & Emerging Areas

- (11) THE COMMITTEE RECOMMENDS THAT SHORT-TERM COURSES SHOULD BE CONDUCTED TO MEET THE TRAINING AND RETRAINING NEEDS OF THE SYSTEM AND INDIVIDUALS. (Para 7.1.4,vii)

Career Growth

At present, the Staff Structure in Technical Institutions is rigid in that the number of cadre positions at various levels is fixed. This adversely effects the career prospects of teachers. To overcome this short-coming,

- (12) THE COMMITTEE SUGGESTS A FLEXIBLE STAFF STRUCTURE WHEREIN THE NUMBER OF POSITIONS AT VARIOUS LEVELS MAY BE DECIDED BY THE INSTITUTIONS TO SUIT ITS SPECIFIC REQUIREMENTS SUBJECT TO THE TOTAL NUMBER OF POSTS REMAINING WITHIN THE SANCTIONED STRENGTH.

The greater number of cadre positions and flexibility in cadre structure recommended by the Committee are expected to accelerate the rate of career growth of teachers.

(Para 7.1.4,viii)

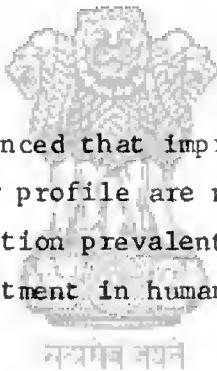
- (13) THE COMMITTEE HAS PROPOSED RELAXATION OF PRESCRIBED MINIMUM EXPERIENCE REQUIREMENT BY TWO YEARS IN THE CASE OF TEACHERS HAVING OUTSTANDING RECORD TO PROVIDE AVENUES FOR THEIR UNSTRUCTURED PROGRESSION. (Para 7.1.4,viii)

Pursuit of Excellence

- (14) THE PROPOSED CADRE STRUCTURE ENVISAGES THE FILLING UP OF ALL POSTS THROUGH OPEN SELECTION FOR ENSURING PROFESSIONAL EXCELLENCE. While our present selection procedures have served the system reasonably well, it can not be said that they are totally free from any kind of subjectivity. Pursuit of excellence would require greater objectivity being built into our selection procedures. THE COMMITTEE FEELS THAT IT WILL BE NECESSARY TO EVOLVE A COMPREHENSIVE SYSTEM OF TEACHER EVALUATION as suggested later in Chapter 8 which should constitute the back bone of our technical education system.

(Para 7.1.4,viii)

Salary Scales



The Committee is convinced that improved salary scales linked to satisfactory career profile are not a concession for mitigating the frustration prevalent amongst the teaching community but an investment in human resources.

(Para 7.2)

- (15) THE ENTRY QUALIFICATIONS AND EDUCATION AND TRAINING PROGRAMMES FOR THE PROFESSIONALS INDUCTED INTO THE PROFESSIONAL AND TECHNICIAN EDUCATION INSTITUTIONS BEING THE SAME, THE COMMITTEE RECOMMENDS SIMILAR SALARY SCALES AT COMPARABLE LEVELS FOR BOTH TYPES OF TECHNICAL INSTITUTIONS. (Para 7.2)
- (16) THE DETAILS OF SALARY SCALES FOR VARIOUS CADRES IN PROFESSIONAL EDUCATION AND TECHNICIAN EDUCATION INSTITUTIONS ARE GIVEN IN THE TEXT OF THE REPORT. Fig. 7.1, however, gives the details of recommended cadre structure and revised salary scales for ready reference. (Para 7.2)
- (17) SALARY SCALE FOR PROBATIONARY LECTURERS AT ENTRY INTO THE SYSTEM IS PROPOSED AS Rs.2200/- WHICH IS THE SAME AS OFFERED IN THE

Table 7.1

CADRE STRUCTURE & SALARY SCALES OF TEACHERS OF TECHNICAL INSTITUTIONSPROFESSIONAL EDUCATION *

DIRECTOR	LEVELS	TECHNICIAN EDUCATION	
		PROFESSIONAL EDUCATION	TECHNICIAN EDUCATION
	8000 FIXED		
PROFESSOR (Sr. Scale)	6700-200-7500	7300 FIXED PRINCIPAL	V PRINCIPAL
PROFESSOR	5100-150-6300-200-7300	PROFESSOR	IV PROFESSOR
ASSOC. PROF.	4500-150-6300	ASSOC. PROF.	III SR.LECTURER
ASSTT. PROF.	3700-125-4700-150-5300	ASSTT. PROF.	II LECTURER (Selection Gr.)
		LECTURER	I LECTURER
	2800-100-3500-125-4500		2800-100-3500-125-4500
	2200- 75- 2800	# PROBATIONARY LECTURER	# PROBATIONARY LECTURER
UNDER GRADUATE PROGRAMS		POST DIPLOMA PROGRAMS	
POST GRADUATE/ ADVANCED PROGRAMS		DIPLOMA PROGRAMS	

NOTE: 1. ALL POSTS ARE OPEN SELECTION POSTS.

2. *PROFESSIONAL EDUCATION INCLUDES ENGINEERING, MANAGEMENT, ARCHITECTURE, PHARMACY, ETC. AT UNIVERSITY LEVEL AND TEACHER TRAINING

3. * THE PROBATIONARY LECTURER SHALL BE REQUIRED TO COMPLETE A PRESCRIBED THREE YEARS EDUCATION & TRAINING PROGRAM CONSISTING OF ONE YEAR INDUSTRIAL/PROFESSIONAL TRAINING SIX MONTHS PEDAGOGICAL TRAINING AND ONE & HALF YEARS SUBJECT-MATTER PROGRAMME LEADING TO A MASTER'S DEGREE OR EQUIVALENT

4. IN THE TENURE OF THE POST OF LECTURER IN TECHNICIAN AND PROFESSIONAL EDUCATION, THE HATCHED PORTION DENOTES PRESCRIBED EDUCATION AND TRAINING PROGRAMME LEADING TO A DOCTORATE OR EQUIVALENT DEGREE

5. THE SCALES MENTIONED ABOVE ARE REVISED SCALES WITH D.A. NEUTRALIZATION UPTO 608 POINTS (1.4.1986)
AS RECOMMENDED BY THE FOURTH PAY COMMISSION6. IN CASE OF TEACHERS OF HUMANITIES AND APPLIED SCIENCES, THE ENTRY WILL BE DIRECTLY AT THE
LECTURER'S LEVEL.

PUBLIC SERVICES AND IS COMPARABLE TO THAT OFFERED IN THE
PUBLIC SECTOR UNDERTAKINGS.

(Para 7.2)

- (18) THE HIGHEST SALARY SCALE IS PROPOSED TO BE FIXED AT Rs.8000/-,
WHICH IS ROUGHLY 4 TIMES THE STARTING SALARY AS ADVOCATED BY
NATIONAL COMMISSION ON TEACHERS-II. The salary scales for
intermediate cadre positions have been proposed to suit the
specific needs of technical education system.

(Para 7.2)

Service Conditions

The Committee is convinced, that for effectively fulfilling the basic aim of attracting and retaining talented persons to teaching, revision of salary scales alone will not suffice. It would be equally necessary to improve their service conditions.

(Para 7.3.1)

Well defined conditions of service will help both teachers and employers in having realistic expectations of each other.

(Para 7.3.1)

- (19) THE COMMITTEE RECOMMENDS THE FOLLOWING SERVICE CONDITIONS FOR THE TEACHERS OF TECHNICAL INSTITUTIONS :

(Para 7.3.1)

- The appointment letter issued by the Institution constitutes a contract between the teacher and the institution. It should be specific and must incorporate the salient terms and conditions of service.
- The Committee recommends that all types of leave and Leave Travel Concession should be as per the leave rules of the Central Universities and should be uniformly made applicable to all technical institutions.
- In order to fully utilise the large investment made by the system in training and retraining of teachers, the Committee recommends that the age of superannuation should be raised to 62 years.

- The Committee recommends that all technical institutions should provide a choice of two schemes to teachers on retirement viz. General Provident Fund-cum-Pension-cum-Gratuity and Contributory Provident Fund (at 10%)-cum-Gratuity scheme so that teachers may opt for anyone of these schemes.
- The Committee recommends provision of full-time Medical Officer and general medical facilities for technical institutions having large component of staff and students living on the Campus.

For other institutions, a visiting Medical Officer may be appointed on a part-time basis.

- The Committee recommends full reimbursement of medical expenses for all teachers and their families as per the Central Government rules.

The possibility of introducing Medical Insurance Scheme for teachers and their families may be explored.

- Adequate post-retirement medical benefits to teachers and their families as per Central Government Rules should be provided.
- To promote mobility of teachers within the system, the Committee recommends that the period of service of a teacher in several technical institutions should be added for the purpose of all service benefits.
- The Committee feels that the teachers should be required to use the period of students vacations as a self-renewal period to be arranged and monitored by the institutions. The Committee, therefore, recommends that as the teachers would be on duty during this period, their leave entitlement would be the same i.e. 30 days earned leave every year, as in the Public Sector Undertakings.
- The technical institutions should have well defined deputation rules for short and long-term appointment out of the institution.
- The rules of settlement of grievances should be framed by all technical institutions.
- The Committee recommends that TA/DA to teachers of all technical institutions should be paid as per the Central Government Rules.

(Para 7.3.1)

Work Environment

In order to optimally utilise the investment made in the recruitment and training of talented professionals inducted into the profession in technical institutions, it will be necessary to ensure that the work environment provided for them is such as will motivate the teachers to give of their best to the students and the profession.

(Para 7.3.2)

(20) THE COMMITTEE, THEREFORE, MAKES THE FOLLOWING RECOMMENDATIONS IN REGARD TO THE WORK ENVIRONMENT : (Para 7.3.2)

- Ideally, 100% housing should be provided on campus but this may not be possible because of financial constraints. The Committee recommends :
 - At least 50% housing for teachers on campus.
 - Creation of House Building Fund by the Government for giving loans at nominal rate of interest to institutions for construction of housing on the campus.
 - Providing house building loans to teachers at nominal rate of interest.
 - Acquisition of suitable accommodation for teachers on Institutional lease.
 - Payment of house rent allowance upto 30%.
- Teachers should be provided conveyance advance on nominal rate of interest for purchase of a vehicle.
- Institutions should provide staff cars to enable teachers to interact with the user system and the society. When such facilities are not provided, teachers should be fully reimbursed the expenses incurred by them towards such local journeys.
- Teachers should be provided with well equipped single rooms for their academic/research work and interaction with students.

- Adequate communication facilities should be provided to the teachers for their effective and efficient functioning.
- The teachers should also be provided with adequate secretarial assistance including central reprographic and duplicating facilities.
- The teachers should be reimbursed the cost of books/ technical journals that a teacher buys to the extent of Rs.1,000/- per annum.
- Teachers should be encouraged to become members of National and International Professional Bodies/ Societies to promote excellence.

The Institutions should subsidise the membership fee of one International Professional Body/Society to the extent of 75% of the fee.

- The institutions should reimburse the expenses for registration and TA/DA to the teachers for presenting a paper in one National Conference every year and one International Conference every three years.
- TA/DA for International Conference should be paid to the teachers as per the Central Government Rules.
- Teachers' children should be given higher priority for admission to the Central Schools and other Government Schools.
- A subsidy for tuition fee at the rate of Rs.50/-p.m. per child for two children should be paid to all teachers.
- Yearly subsidy for purchase of books at the rate of Rs.120/- per child for 10 and 10+2 classes and Rs.50/- per child for other classes should be paid to all teachers.
- Group Insurance Scheme with premium paid by the institutions should be introduced in all technical institutions to provide protection to teachers against professional hazards.

Group-Savings Linked Insurance Scheme should be encouraged for the teachers.

The Committee, however realizes that resource constraints may require phasing out the provision of these facilities and

suggest that this aspect may be examined separately by each institution according to its own needs.

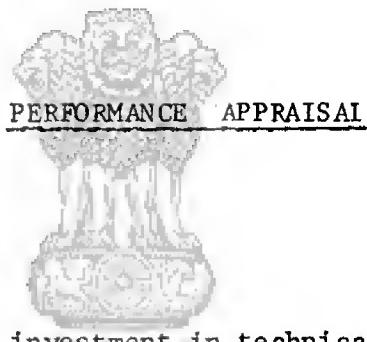
(Para 7.3.2)

Qualifications and Experience Requirements

The Committee examined the qualifications and experience requirements necessary for the various cadre positions commensurate with the job requirements and responsibility at various levels. (Para 7.4)

- (21) THE DETAILED RECOMMENDATIONS OF THE COMMITTEE IN RESPECT OF QUALIFICATIONS AND EXPERIENCE ARE GIVEN IN TABLES 7.2 AND 7.3 OF THE MAIN REPORT. (Para 7.4)

Appraisal System



With such large scale investment in technical education as is being proposed, it is essential to ensure that return on the investment justifies the expenditure. Consequentially, while devising the modification to the system to attract and retain the most meritorious, it should be ensured that having done so, the teacher is able to give of his best to students and the system works efficiently and economically.

(Para 8.1)

This would require positive monitoring and continuous evaluation of the system as a whole, for its optimal functioning, including its basic unit, the teacher. Towards this end a comprehensive system of performance evaluation would, therefore, need to be evolved and introduced at the following four levels :

- Institution Evaluation
- Programme/Course Evaluation

- Teacher Evaluation
- Student Evaluation

All appraisal systems are generally viewed with a certain degree of apprehension for obvious reasons. It is essential that this impression about the punitive nature of evaluation is dispelled. The evaluation system and strategies should be so conceived and operated that those being evaluated develop faith in the fairness and objectivity of the system. They should perceive it as a development activity and not as a control mechanism.

(Para 8.2)

The outcome of the evaluation should be used to :

- Assess gaps in the components of the system and remove the same through policy and resource support
- Identify training needs and provide need based training programme for resource personnel
- Provide a better climate for better performance and pursuit of excellence
- Facilitate equitable resource provision and optimize utilization
- Promote self-development for removing deficiencies and achieving better performance
- Gather data for corrective action and plan improved strategies
- Provide a comprehensive data base for decision making and accountability.

(Para 8.2)

For success and acceptance of evaluation at any level it is essential to have :

- Objective statement of expected performance goals
- Definition of criteria and specific indicators of attainment of objectives
- Procedures for observing the indicators and applying the criteria.

Also as evaluation of institutions, programmes/courses, teachers and students are not independent of one another and form an integrated system of evaluation, with each evaluation forming a data base for the evaluation at the next higher stage, the system of evaluation should be conceived and operated in a wholistic manner as an integrated system and not in bits and pieces.

(Para 8.2)

Performance Evaluation

- (22) THE COMMITTEE HAVING PONDERED OVER THIS PROBIEM CAME TO THE CONCLUSION THAT A COMPREHENSIVE, WELL COORDINATED AND CONTINUOUS SCHEME OF PERFORMANCE APPRAISAL FOR THE SYSTEM AS A WHOLE COVERING ALL THE COMPONENTS — THE INSTITUTE, PROGRAMMES AND TEACHERS, MUST BE INTRODUCED TO OBTAIN THE OPTIMAL RETURN FROM OUR INVESTMENT IN HUMAN RESOURCES BEING PROPOSED BY US. Such a scheme in fact would provide the main stay for the success of our National Policy on Education which recognises the need for such a scheme of Performance Appraisal and states :

"A system of teacher evaluation — open, participative and data-based will have to be created and reasonable opportunities for promotion to higher grades provided".

- (23) WE HAVE AT PRESENT ONLY SCANT EXPERIENCE IN TECHNICAL EDUCATION OF SUCH A SYSTEM OF OPEN, PARTICIPATIVE AND DATA BASED TEACHER EVALUATION. As such, the Appraisal System will need to be reviewed and refined over a period of time.

(Para 8.4.1)

An attempt has been made, in the following paragraphs to describe briefly, an over all frame work of such a scheme for the evaluation of institutions, programmes/courses and

teachers which may be of some help in evolving a detailed scheme for each institution.

(Para 8.4.1)

(i) Institutional Evaluation

Institute performance should be viewed with a long-term perspective. The evaluation should focus on its impact, resources, curriculum, management process and its output alongwith its interaction with the environment.

(Para 8.4.1,i)

(24) THE COMMITTEE RECOMMENDS THAT :

- The AICTE should appoint an Evaluation Committee to evaluate the performance of each technical institution every seven years
- The institutions should prepare detailed annual reports of their achievements vis-a-vis their planned targets
- The above reports will provide the data base for the performance evaluation of the institutions by the Evaluation Committee.

(Para 8.4.1,i)

(ii) Programme/Course Evaluation

It may be possible to evaluate a programme or a course for its effectiveness and efficiency once in a period of 3 to 5 years. Programme/course evaluation should look into the aspects of planning, implementation and outcome using students, faculty, management and employer as the sources of information.

(Para 8.4.1,ii)

(25) THE COMMITTEE RECOMMENDS THAT :

- The course evaluation should be done at the end of each course to evaluate its impact and apply corrections.

- Programme evaluation should be undertaken every 3-5 years depending upon the scope and duration of the programme.
- The departments in technical institutions should prepare annual progress reports in respect of their programmes to provide the necessary data base for their evaluation.
- The work of evaluation of courses and programmes should be entrusted to a programme Evaluation Committee of the Institute.

(Para 8.4.1,ii)

(iii) Teacher Evaluation

The teacher being the basic unit comprising the educational system, the appraisal of the system would involve indirectly the appraisal of this important component. Teacher evaluation must focus on instructional effectiveness, research and development, co-curricular activities, contribution to the development of department/institute, consultancy, creative and innovative efforts and professional development.

(Para 8.4.1,iii)

(26) THE COMMITTEE RECOMMENDS THAT :

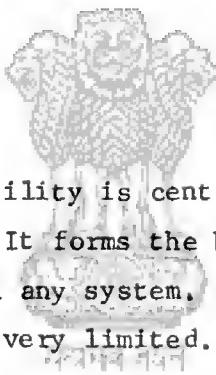
- Every teacher should be required to prepare an agreed work schedule between himself and the authorities detailing therein his programme of activities for the academic year in respect of the various roles assigned to him.
- At the end of year the teacher should submit an annual report of the progress achieved. It should also indicate the constraints and bottlenecks encountered by him during the process.
- Course evaluation by the students could provide a valuable feed-back in respect of academic programmes and their presentation. Peer evaluation could also be used for obtaining feed-back in respect of academic programmes.

- The performance of the teacher should be evaluated every year by an internal committee set up by the Institution.
- The annual assessment report of the teachers of their performance in respect of the various roles should be reviewed periodically by an external assessment committee preferably every three years on the basis of the annual reports and other data and personal interview with the teacher.

(27) TEACHERS REGULAR EVALUATION MUST ALSO LEAD TO THE IDENTIFICATION OF HIS TRAINING PROGRAMME. TEACHERS DEMONSTRATING HIGH DEGREE OF COMMITMENT AND COMPETENCE AND WHO HAVE SHOWN OUTSTANDING PERFORMANCE SHOULD BE SUITABLY REWARDED WITH ADDITIONAL INCREMENTS/PROMOTION TO HIGHER LEVELS OF RESPONSIBILITY.

(Para 8.4.1,iii)

Accountability



The concept of accountability is central to any scheme of performance appraisal. It forms the back drop scenario for monitoring excellence in any system. So far the concept of accountability has been very limited. It has been viewed mostly as a punitive measure against the individual. This is,

(28) however, not the case in the present day context. THE CONCEPT OF ACCOUNTABILITY HAS TO BE VIEWED AS A MECHANISM FOR IMPROVING THE EFFICIENCY OF THE SYSTEM. (Para 8.3)

Accountability is referred to as the moral, ethical and contractual obligation of individuals and systems to achieve the objectives and targets assigned/set for them in the most efficient and economical way.

(29) FOR ITS SUCCESSFUL IMPLEMENTATION BOTH INDIVIDUALS AND SYSTEMS MUST BE AWARE OF THEIR IMMEDIATE AND LONG-TERM OBJECTIVES AND THE SIGNIFICANCE OF THEIR CONTRIBUTION IN ACHIEVING THEM AND BE ACCOUNTABLE FOR IT.

(Para 8.3)

- The concept of accountability not only relates to the fulfilment of the roles assigned to the individual or the system but also to performing them efficiently and economically. Career development of the individual thus gets closely linked or based on his performance and accountability at each stage through identification of training programmes and incentives and disincentives built into the system.
- (30) THE COMMITTEE RECOMMENDS THAT THIS SHOULD BE DONE AS A CALCULATED MEASURE OF IMPROVING AND MONITORING THE EFFICIENCY AND EXCELLENCE OF THE SYSTEM.

(Para 8.3)

IMPLEMENTATION STRATEGY

The Committee has evolved, in Chapter 7, a set of Recommendations to bring about the much needed change in the academic structure, salary scales etc. to attract and retain talented professionals to teaching. For successful implementation of these measures, a proper implementation strategy needs to be worked out both for the period of transition as well as on a long-term basis.

(Para 9)

Placement of Existing Teachers

The first major task, in implementation of these recommendations, would be the placement of existing teachers of professional and technician education institutions in the revised cadre structure and salary scales being proposed.

(Para 9.1)

- (31) THE COMMITTEE RECOMMENDS THAT THE PAY OF EXISTING TEACHERS MAY BE FIXED IN THE REVISED SALARY SCALES BASED ON THE SAME FORMULA AS SUGGESTED BY THE FOURTH PAY COMMISSION.

(Para 9.3.1)

However, in regard to the remedial measures to provide relief
 (32) in the event of 'Bunching of Pay', THF COMMITTEE RECOMMENDS
 THAT THE RELIEF SHOULD BE BASED ON A THREE YEAR INTERVAL AS
 AGAINST THE FIVE YEAR INTERVAL PROPOSED BY THF FOURTH PAY
 COMMISSION.

(Para 9.3.2)

Detailed recommendations for fixation of pay and providing
 relief for bunching are given in paras 9.3.1 and 9.3.2
 respectively of the main report.

(Para 9.3)

Induction of Teachers

Since fresh entry to the system is now proposed as Probationary Lecturers with a First Class Bachelor's Degree in the relevant field and to arrange for their subsequent education and training within the system to suit its needs, it becomes imperative to pick only the most meritorious of the fresh graduates at this stage for entry into technical institutions.

(Para 9.4)

(33) FOR THIS PURPOSE, THE COMMITTEE RECOMMENDS THAT :

- An existing agency like UPSC may conduct an All India Qualifying Examination for Probationary Lecturers. Alternatively, AICTE may create necessary infrastructure for the purpose.
- Talented graduates qualifying in the above All India Examination be selected as Probationary lecturers by the technical institutions through their own selection.
- As all new entrants will be required to undergo the compulsory basic Training Programme. These posts shall be over and above the sanctioned posts determined on the basis of the prescribed ratios.

(Para 9.4.1)

Selection Procedures

The Committee has recommended that all posts in professional and technician education institutions should be filled by open selection procedures to ensure excellence. The alternative scheme of merit promotions introduced in some institutions is unacceptable as it defeats the above objective for lack of data-base of rigorous assessment. (Para 9.4.2)

The open selection procedures also suffer from a similar disability, though to a much lesser extent, for lack of comprehensive and relevant information being available about the performance level, in his various roles as a teacher, for all candidates appearing before the Selection Committee. The Committee's judgement has, therefore, to be based on the research publications and 20-30 minutes interview of the candidates which is not adequate. (Para 9.4.2)

- (34) THE COMMITTEE, THEREFORE, RECOMMENDS THAT A DETAILED PERFORMANCE APPRAISAL SYSTEM NEEDS TO BE DEVELOPED TO GENERATE THE DATA BASE FOR ALL TEACHERS TO BE MADE AVAILABLE FOR THE PROPOSED RIGOROUS ASSESSMENT. The data base obtained through the proposed appraisal scheme will strengthen the judgement of the Selection Committee. This would help us to build the credibility of our open selection procedures. (Para 9.4.2)

Education & Training Programme

As mentioned earlier, the Committee has recommended that having selected the meritorious professionals after the First Degree, the responsibility of training them for their role as teachers must rest with the system. For this purpose, the Committee has visualized three types of programmes. (Para 9.5)

(i) Basic Education & Training Programmes

The Committee has recommended a three years Basic Education

and Training Programme for Probationary Lecturers for both professional and technician education institutions. These programmes though similar in structure and level, will be different in content as explained in Chapter 7.

(Para 9.5.1)

- (35) THIS PROGRAMME FOR PROBATIONARY LECTURERS OF PROFESSIONAL EDUCATION INSTITUTIONS MAY BE CONDUCTED AT INSTITUTIONS ALREADY ENGAGED IN QUALITY IMPROVEMENT PROGRAMMES (QIPs). IN VIEW OF THE LARGE NUMBER OF TRAINEES INVOLVED, GOVERNMENT MAY HAVE TO INCREASE THESE FACILITIES BY IDENTIFYING OTHER LEADING INSTITUTIONS TO PARTICIPATE IN THIS ACTIVITY.

(Para 9.5.1,i)

- (36) THE THREE YEARS BASIC EDUCATION AND TRAINING PROGRAMME FOR PROBATIONARY LECTURERS OF TECHNICIAN EDUCATION INSTITUTIONS MAY BE CONDUCTED AT TTTIs. HOWEVER, AS THERE ARE ONLY FOUR SUCH INSTITUTIONS IN THE COUNTRY, THEIR NUMBER WILL HAVE TO BE INCREASED AND OTHER INSTITUTIONS SUCH AS REGIONAL ENGINEERING COLLEGES AND OTHER LEADING INSTITUTIONS IN THE COUNTRY SHOULD BE INVOLVED IN CONDUCTING THESE TRAINING PROGRAMMES.

(Para 9.5.1,ii)

- (37) THE INFRASTRUCTURAL FACILITIES EXISTING IN TTTIs OR OTHER INSTITUTIONS DESIGNATED TO IMPART THIS TRAINING ARE MEAGRE AND WOULD NEED TO BE AUGMENTED AND STRENGTHENED IN RESPECT OF FACILITIES AND FACULTY SUPPORT BOTH FOR PROFESSIONAL EDUCATION AND TECHNICIAN EDUCATION INSTITUTIONS TO ENABLE THEM TO SUCCESSFULLY UNDERTAKE THESE PROGRAMMES. In fact teacher training will become an area of priority in technical education.

(Para 9.5.1,ii)

(ii) Advanced Education & Training Programmes

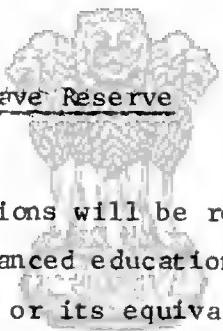
The Committee has also suggested that the lecturers of technical institutions during their tenure as lecturers would be required to undergo an advanced level education

and training programme of three years duration leading to a Doctorate Degree or its equivalent. The thrust of these programmes both for the professional and technician education has been indicated, earlier in Chapter 7.

(Para 9.5.2)

- (38) THE ADVANCED LEVEL EDUCATION AND TRAINING PROGRAMMES BOTH FOR PROFESSIONAL AND TECHNICIAN EDUCATION WOULD BE ORGANISED AT VARIOUS TECHNICAL INSTITUTIONS ALREADY CONDUCTING QUALITY IMPROVEMENT PROGRAMMES (QIPs). THE EXISTING INFRASTRUCTURE FOR TEACHER TRAINING IN TECHNICAL EDUCATION IS INADEQUATE. IT WILL HAVE TO BE EXPANDED BY ADDING OTHER LEADING INSTITUTIONS TO THE NETWORK AND STRENGTHENING THE INSTITUTIONS WITH ADDITIONAL FACILITIES AND FACULTY FOR THIS PURPOSE. (Para 9.5.2)

(iii) Training & Leave Reserve



The technical institutions will be required to sponsor lecturers to the three years advanced education and training programmes leading to a Doctorate or its equivalent. The institutions also need to sponsor teachers to various short-term programmes for their further training and retraining so that the teachers remain up-to-date in their relevant field and in new and emerging areas. For both these in-service training programmes, adequate training and leave reserves are necessary for the institutions to spare the teachers.

- (39) THE COMMITTEE RECOMMENDS THAT IT WOULD BE NECESSARY TO PROVIDE TRAINING AND LEAVE RESERVE OF ATLEAST 10% OF THE SANCTIONED FACULTY POSTS FOR THIS PURPOSE. THIS PERCENTAGE WILL NEED TO BE REVISED PERIODICALLY DEPENDING UPON THE NEEDS OF THE INSTITUTIONS. (Para 9.5.3)

Introduction of Performance Appraisal System

The Committee has recommended in Chapter 8 that a comprehensive

(40) system of performance evaluation should be introduced in the Technical Education System at various levels to improve the performance of the system. FOR THIS PURPOSE, THE GOVERNMENT WILL NEED TO ISSUE A SPECIFIC POLICY DIRECTIVE THAT PERFORMANCE APPRAISAL SYSTEM MUST BE INTRODUCED IN ALL TECHNICAL INSTITUTIONS IN ORDER TO EVALUATE THE INSTITUTIONS, PROGRAMMES/COURSES AND THE TEACHERS. Suitable infrastructure will have to be created to monitor this programme at the centre as well in the states.

(Para 9.5.6)

(41) THE COMMITTEE ENVISAGES AN IMPORTANT ROLE FOR THE ALL INDIA COUNCIL FOR TECHNICAL EDUCATION (AICTE) IN THE EVALUATION OF THE INSTITUTIONS AND THE VARIOUS PROGRAMMES/COURSES RUN BY THEM AS ALSO THE APPRAISAL AND SELECTION OF TEACHERS. THE AICTE SHOULD BE SUITABLY STRENGTHENED TO PERFORM THESE FUNCTIONS.

(Para 9.7)

Monitoring the Implementation of Recommendations

(42) THE COMMITTEE RECOMMENDS THAT THE SET OF RECOMMENDATIONS MADE BY IT SHOULD BE IMPLEMENTED AS A 'TOTAL PACKAGE' AS THE VARIOUS RECOMMENDATIONS ARE CLOSELY INTER-RELATED.

(Para 9.7)

The Committee is convinced that partial measures will not achieve the objective of attracting talent to teaching and upgrading the technical education system.

(Para 9.7)

(43) FURTHER, THE IMPLEMENTATION OF THESE RECOMMENDATIONS WOULD NEED TO BE CONSTANTLY MONITORED, THROUGH SPECIAL BOARDS OR CELLS OF AICTE AT THE CENTRE. SIMILAR INFRASTRUCTURE WILL HAVE TO BE CREATED IN STATES FOR THE SAME PURPOSE.

(Para 9.8)

Strategy for Funding

The Committee is of the view that the States, by themselves,

would be unable to raise adequate resources on the scale needed for investment in technical education since their funding for education is derived generally from revenue receipts which are difficult to augment. (Para 9.8)

- (44) THE COMMITTEE, THEREFORE, RECOMMENDS CENTRAL SUPPORT FOR THE STATES IN THE FORM OF 50 TO 100% SUBSIDY. ALTERNATIVELY, INTEREST-FREE LOANS TO THE STATES MAY BE CONSIDERED FOR IMPLEMENTING THE PACKAGE OF RECOMMENDATIONS.

(Para 9.8)

- (45) THE GOVERNMENT MAY ALSO EXPLORE THE POSSIBILITY OF IMPOSING A MANPOWER DEVELOPMENT CESS IN ALL DEVELOPMENT PROJECTS IN ORDER TO RAISE FUNDS FOR LARGE SCALE INVESTMENT IN HUMAN RESOURCE DEVELOPMENT OR RAISING OF ADDITIONAL RESOURCES THROUGH LOANS OR EDUCATIONAL CESS OR A COMBINATION OF THESE METHODS.

(Para 9.8)

ACKNOWLEDGEMENT

All individuals and organisations who assisted in compilation of the report have been acknowledged in Chapter 10 of the main report.

(Para 10)



(R.N. Dogra)

Chairman
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